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Impact of national FFA contests on participants' educational and occupational aspirations

by

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INTRODUCTION

The educational and career choices of young people have always been an important issue in American society. One reason for this concern is the need for a highly skilled citizenry in this age of rapidly expanding technology. Increasing educational requirements are demanded at all levels of the occupational structure for present-day employment opportunities. It is recognized and emphasized by society that a quality education is essential for future success. Indeed, looking to the future, it is apparent that today's graduates will be faced with the prospect of several career changes, the need to acquire new skills, and the ability to cope with a rapidly expanding knowledge base. The challenge before educators to provide youngsters with the skills necessary to become productive members of society is immense. With finite educational resources and student time, the need to examine the quality and quantity of effort expended on learning activities is essential. As such, it is important for educators to continuously question the value of the learning experiences they provide.

Instruction in vocational agriculture has been included as a curriculum offering in the public schools since the passage of the Smith-Hughes Act of 1917 (39). The program has consisted of three integral components: (1) classroom activities; (2) supervised occupational experiences; and (3) membership in the Future Farmers of America (38). The first two components were established as a part of the curriculum in the founding legislation. The Future Farmers of

America organization (more commonly referred to as the "FFA" and used as such in the remainder of this document) was established in 1928 as the official organization for youth studying vocational agriculture, and was sanctioned by the Congress as an essential component of the curriculum with the passage of Public Law 740 in 1950 (40). According to the FFA Advisor's Handbook (20), it is the combination of these three elements which makes the vocational agriculture program vocational. The amendments to the Vocational Education Act of 1976 defined vocational education as the (41, p. 2211):

> organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career requiring other than a baccalaureate or advanced degree.

This definition was almost identical to the definition used in the original Smith-Hughes Act (39). The 1976 legislation called for each state to conduct follow-up evaluations of vocational education programs to determine the extent to which program completers and leavers were finding employment in occupations related to their training (41). The major focus of vocational education is in job specific training and the FFA as an integral part of vocational education in agriculture shares in that mission of teaching employment skills.

The FFA (19) has as one of its stated objectives the advancement of youth towards employment in an agricultural occupation. Kantner and Bender (33), in summarizing the results of a national jury of educators on the purposes and objectives of the FFA, identified as one of its major purposes the development of the members' ability to choose

and prepare for an agricultural occupation.

One method used by agricultural educators as a mechanism to motivate students to perfect and advance their occupational skills are competitive events. Competition between vocational agriculture students has taken place since the turn of the century, with the FFA sponsoring such events since 1937 (49). The FFA contests have expanded over the years to include competition in nine technical events: agricultural mechanics, dairy cattle, farm business management, floriculture, livestock, meats, milk quality and dairy foods, nursery/landscape, and poultry. Each year over fourteen hundred FFA members from across the country converge on Kansas City, Missouri, to compete in the national contests. Each team represents the best each state has to offer in the nine contest areas. Most members have participated in several contests before earning the right to compete at the national level.

The benefits to students derived from these competitive events have long been accepted by agricultural educators as meriting the time, effort, and costs necessary to conduct them. Since their beginning, judging contests have helped to motivate and augment occupational skills taught by instructors both in and outside of the formal classroom setting. Until recently, this motivational aspect of participation has been the only written objective. According to the 1984 Official FFA Manual (22, p. 44):

> All FFA contests are to be a natural outgrowth of the instructional program. The contest also should help make classes more interesting and encourage the

> development of special skills. Contests are to help develop: (1) technical knowledge, (2) ability to make sound judgments, (3) ability to defend the decisions, and (4) the ability to be a gracious winner or a good loser.

The FFA Advisor's Handbook describes contests as a (20, p. 98) "tremendous motivating force for the student, and an invaluable teaching aid for the instructor." Not until 1982 (21) did a majority of the contests have written purposes and stated educational objectives. These objectives related only to technical competencies and no mention was made of interpersonal benefits.

In 1981, a sub-committee of the FFA National Board of Directors was formed to determine criteria for the establishment of future contest offerings. The sub-committee was chaired by Dr. Richard I. Carter, a teacher educator at Iowa State University. As a result of a survey of teachers, state supervisors, and administrators, the following criteria were adopted (9, p. 9):

1. At least fifty percent of the states should be conducting instruction covered in the proposed contest.
2. At least twenty-five states should be conducting similar contests at the state level.
3. Proposed National FFA Contests should be approved by the National FFA Study Committee before being considered by the Board.
4. Objective evaluation and scoring should be included in proposed national contests.
5. The skills and competencies required in the proposed contest must be needed by vocational agriculture/ agribusiness students.

The only educational objective eluded to in the criteria was that the skills be required for employment purposes. This objective reinforces the vocational training aspect, or the perceived utilitarian value of the skills acquired as the major reason for conducting the contests.

The central question addressed by this research was to evaluate the effectiveness of the contests in preparing students for employment in production agriculture or agriculturally related occupations.

The purpose of this investigation was to ascertain the value of the contests as an instructional method. Specific objectives were:

1. To determine if contest participants were employed or preparing for employment in the capacity for which they were trained.
2. To determine the personal and occupational benefits contest participants received.
3. To determine the perceived post-secondary educational advantages contest participants received.
4. To determine the level of educational and occupational aspirations of the participants.
5. To identify the relationships between student characteristics and the degree to which they are using the contest skills in an occupation.

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured and that informed consent was obtained by appropriate procedures.

REVIEW OF LITERATURE

Since their inception, the National FFA Contests have been an issue of considerable controversy among agricultural educators. This literature review examines the major arguments, both pro and con, that have been voiced over the years concerning the contests, and details previous research efforts germane to this investigation.

Underlying Events

Most agricultural educators recognized contest participation as a worthwhile learning activity for students of vocational agriculture. Vocational agriculture students have been participating in national judging contests (livestock and dairy cattle) since 1926, and members of the FFA have been competing since their first national convention in 1928 (49). In the minutes from the first Congress of the Future Farmers of America in 1928, listed under the program of work for the National Chapter was the inclusion of the objective to "encourage and foster national judging contests" (1, p. 9). In 1936, the contests became an officially sanctioned event of the FFA. Other than a suspension of the contests during World War II (1941-46), they remained a permanent part of the curriculum in vocational agriculture (49). Concerns over their appropriateness and value had been voiced from the beginning of the contest program.

As early as 1930, an editorial appeared in the Agricultural Education Magazine defending the rationale for conducting contests. M. A. Sharp (43), in his article entitled "Why Contests?", conceded that

some problems existed with the use of contests. He felt that too much emphasis was being placed on winning and that some agricultural teachers spent a disproportionate amount of their time with a small group of team members to the detriment of others in the vocational agriculture program. He concluded that in spite of the drawbacks, the contests made a positive contribution to the lives of the students. He cited the contribution to the participant's self-esteem, the value of traveling and interacting with students from around the country, and the skills acquired as reason enough to support their continuation.

When contests became an activity sponsored by the National FFA in 1936, the discussion over their educational value became more heated. The debate centered around the alleged abuses of using competition as a teaching method, not on the educational desirability of the competition itself. Jackson (30) questioned if judging contests were really measuring students' abilities efficiently. He criticized contests for being unscientific and guessing games. Broyles of Pennsylvania wrote in 1937 that (5, p. 146):

> Judging contests are colorful, dramatic, and highly motivated. Competition, applause, and publicity, generous awards, all combine to make a state or national contest a great occasion.

He went on to posit, "Are contests a good teaching device? This is the question." After citing several examples of how some contests problems had been rectified, he answered his own question (5, p. 146):

> It is, therefore, now common opinion among administrators and teachers of agricultural education that contest judging has become an important and motivated part of school instruction, and that contests have been enough improved

to justify the statement: "FFA contest judging marches hand in hand with good instruction."

The controversy continued right up until the contests were suspended because of restrictions resulting from World War II. Deyoe in 1941 wrote about the need to reexamine the place of contests in the curriculum (15, p. 28):

> From various sources the viewpoint has been expressed that changes are needed, but there appears to be considerable doubt as to how to proceed. Partly because of this, and partly because of other reasons for not desiring a change, we find some persons who still argue (some of them vociferously) for a continued emphasis on judging. A few maintain that such training has disciplinary and transfer value and therefore aids in the development of the generalized ability to judge wisely in various situations in life. This latter argument smacks a bit too much of that put forth in The Sabre Tooth Curriculum where a "peculiar" tribe of people had schools which persisted in teaching youngsters how to combat the Sabre Tooth Tiger long after the beast had become extinct, on the grounds that such instruction trained the mind and had cultural value.

It was not until the resumption of the contests after the war that the appropriateness of the use of competition as a teaching method came into question.

Even before the contests were resumed, L. B. Fidler wrote (18, p. 143):

> My first group project, as a teacher of vocational agriculture twenty years ago was, to train a group of farm boys to win over other farm boys; to be able to come back to their home community and shout, "We Won." From that day to this we have been multiplying competitive events, training boys and groups of boys to win over others.... Our educational programs and our philosophy of living seem to really work in winning contests and deadly wars.

He argued:

> Increasingly, our activities must be pointed towards competition for human good rather than competition for personal or group glory.

Writing of a hypothetical farmer, Olney observed (37, p. 203):

> Farmer Ashburn is concerned with buying and raising animals and varieties that will produce high yields; and, in addition, he desires to grade the products grown so that they will bring the greater return, thereby making a high labor income. He is primarily interested in his own farm. It is true that he makes comparisons with his neighbors and other farmers in order to improve his own situation, but it is not his primary concern to compete openly with them....
>
> With the resumption of the vocational contests for Future Farmers of America in 1947 it is important at this time that everyone in vocational agricutlure education give serious thought to the problem. What every teacher of agriculture should do is to provide the training and experience that each pupil needs which will enable him to become a better and more efficient farmer on a particular farm. We should not place undue emphasis upon show and artificial awards that are of less value to farmers. But "sticking to" our real job of teaching boys the actual problems, that which may often be of more value than those received at some bizarre event that passes quickly and is soon forgotten.

Other than one article by Bernard Wilson in 1958, nothing more had been written by an agricultural educator concerning the moral appropriateness of using competition as a teaching method. He contended that (52, p. 196):

> We should eliminate contests in vocational agriculture. I know this is heresy. I also know that many people would agree with me. Some of them have and are speaking out against contests. Some of them are trying hard to make contests educational. Some are trying to make them less objectionable. My view is that we should cease trying to improve something that when improved is still not good and should not be a part of an educational program in a democratic society.

The concern over the educational value of the contests surfaced

again in 1948 when Bunger questioned (6, p. 183):

> If it can be determined that contests are being used as a device to help attain our established training objectives, if by their use we are developing skills and the ability to render good judgment, if through them we are instilling ideals, and fixing healthy attitudes, they are desirable and a definite place should be provided for them; and if the opportunity to participate in them is equally available to all of the members then we can justify the time and effort which contests demand.

Deyoe also questioned the educational value of the contests when he stated (16, p. 76):

> As educators we must focus our efforts on the attainment of defensible educational objectives. To the extent that contests contribute to such ends, we are justified in supporting them. Contests which are of questionable value from the educational standpoint must be improved or discarded.... Unfortunately, some of our national and state contests which have been handed down from the past have rather serious weaknesses and only recently have we shown a willingness to improve them.

Many of the same arguments on both sides of the issue have been passed on to recent years. Goodman and Crouch (26) discussed several reasons as to why high school students should be exposed to competition: (1) American society is highly competitive; therefore, it is necessary to allow students in school to function on a competitive basis; (2) the culture of the educational system is already engrained; and (3) there exists a lack of something better to replace the old competitive system.

Carter expressed the concern that some vocational agriculture teachers used extreme measures in preparing for contests (8, p. 51):

> One extreme is the person teaching his young people that winning is the only thing that matters. This person seems to be teaching that students must be embarrassed and ashamed if they place anything but first. Often he even goes so far as to make them feel anything ethical or unethical is justified if it will result in a win.

One concern voiced throughout the history of the contests has been the amount of time devoted to training teams. Emanual (17, p. 174) expressed, "It was my belief that at no time should FFA contests, for example, initiate the development of the instructional program." Schumann commenting on the attitude, that in order to win the teachers has to spend all their time training teams, stated that such an attitude is the reflection of the frustration felt by those vocational agriculture teachers who are not successful in training winning teams. He advised (42, p. 55):

> ...the contest material should be an integral component of the organized instructional program. Teachers cannot justify the practice of training a few members of the class and assigning the remainder of the students meaningless "busy work." ...it (contest) should be part of a well organized program of vocational agriculture and should contribute toward the accomplishment of the overall program objective.

Another concern often stated is that only a select few benefit from contest participation. The claim is made that all members of a FFA chapter do not have an equal opportunity to "make the team." Byers, commenting on the need for team selection to be based on open competition, stated that (7, p. 6):

> Students should earn the right to represent their chapter. The advisor should not be responsible for selecting the chapter representatives for district or state level contests. The representatives should be selected on their performance--an earned right. Students who earn the right to represent their chapter will be the strongest representatives the chapter can have. Experience indicates that teachers do not always select the best representatives, regardless of how well their intentions may be.

In spite of the controversy surrounding the contests, agricultural

educators remained optimistic about the benefits afforded students that participated. Stockton (48) felt that FFA competition was a positive part of the vocational agriculture curriculum because it allowed for student participation regardless of size, physical ability, intelligence, or sex. Schumann (42) expressed that competition was at the heart of the free enterprise system. Carter (8) felt that contests helped students learn to set goals. Spell (46) commented that contests stimulate, motivate, develop pride in accomplishment, and help fulfill the basic want of all to be recognized.

Related Research

Competition in sports is taken for granted; however, there are arguments on both sides of the question as to whether or not competition strengthens or weakens the individual's self-worth. What about other kinds of competition to which students in the school are exposed or encouraged to enter? There are contests in almost every discipline, ranging from scholastic bowls for the intellectually gifted, music contests for the artistically inclined, debate for the orator, skills contests for the vocational student, and many others.

The recognition of the pervasiveness of educational competition as a motivational technique has led to considerable interest in its effectiveness. Yet, despite intensive research efforts, much confusion over its influence exists, and guidelines for the effective application of competition in education have not been available (44).

Some studies have concluded that competition results in increased

achievement (12), while others have concluded that noncompetitive and cooperative environments lead to higher performance (30, 31, 44). It has been suggested that the dichotomous model of competition versus cooperation may have been inadequate for understanding the effects of this variable, and that there is a need to consider related factors (13, 45). One possible explanation for the inconsistency of research findings was the lack of attention given to individual differences such as cognitive learning style, cultural differences, and gender (3).

Very little research had been conducted on the educational value of FFA contests. White (51) in 1977 studied 1124 individuals from 281 school districts in Texas to assess the FFA contests program at the state level. His population consisted of secondary school principals, teachers of vocational agriculture, and juniors enrolled in the vocational agriculture curriculum who were members of the FFA. White measured the groups' responses to sixty variables designed to determine:

1. The level of agreement or disagreement concerning the educational value of the FFA contests.
2. If there was a felt need to create additional contests, delete contests, or make changes in the present contest procedures.
3. If the contest activities selected by Texas FFA chapters were influenced by the number of years of vocational agriculture teaching experience of the advisor, total number of students enrolled in the vocational agriculture program, number of teachers in the vocational agriculture department, and the size of the high school.

White found that the school principals were more extreme in their level of agreement or disagreement on 72 percent of the measured variables. Significant differences were determined to exist for variables

such as FFA contests are currently designed primarily for students going into farming, costs for preparing for and participating in FFA contests are not justified in terms of their worth or value to the individual, and too much time is spent in traveling to and from FFA contests.

No significant correlation was found between the number of years of teaching experience of the advisor and the types of contests entered. In addition, no significant correlation was found between the number of students enrolled in the vocational agriculture program and the contest entered. White, in his conclusions, supported the concept of contest participation by indicating that they promoted desirable changes in behavior necessary for personal growth. However, no substantial support for this conclusion can be found in the study.

Carter (10), in summarizing his findings of a survey of the participants in selected events at the 1981 National contests, found that agricultural skills development was the major benefit of participation as perceived by the participants. Thirteen percent indicated that preparation for a future occupation was a benefit of participation in the national contests.

Herren (27) conducted a study using an ex post facto design to examine the population of the 135 participants in the 1981 National FFA Livestock Judging Contst and their advisors. His objective was to determine the factors associated with the success of those teams. Success was determined by total points scored by an individual and their team.

Herren found that: (1) those teams that spent an extremely high amount of time practicing were the teams that ranked in the top ten; (2) those teams whose advisors had more recent and formal training scored higher; (3) teams from small schools could compete effectively; and (4) success was independent of sex, age, and years of participant or team experience.

In a study indirectly related to the FFA contests, Welton and Bender (50) conducted a nationwide investigation of 112 FFA chapters to determine how student characteristics affected participation in the FFA. They found that 70 percent of the students attended all of the chapter meetings and participated in chapter activities. Forty-four percent had attended district or regional functions, whereas 41 percent had attended state activities and 9 percent had participated in a national event. In addition, they determined that (p. 20, 21):

1. Students who were members of the FFA indicated that their main motive for becoming members was to participate in FFA activities.
2. Students who were not FFA members indicated that they would be more inclined to become members if more appropriate chapter activities were planned to suit their interests.
3. FFA members believed the organization would be best improved by providing more appropriate activities which would interest a higher percentage of the membership.

In a study to determine why vocational agriculture students in California did not participate in FFA activities, Gilbertson et al. (25) found that students believed that leadership development was an important component of the FFA. They also found that students perceived contests as a valuable method for testing their agricultural

skills development.

In an investigation designed to determine student attitudes about the vocational agriculture program, Arrington (2) surveyed all of the 333 high schools in Florida with programs. He used a telephone questionnaire instrument modified from the one used in a Southern Agricultural Education Region follow-up study (29). Student attitudes about experiences received in vocational agriculture were measured by having each student rate 16 program evaluation statements using a modified Likert scale. Using factor analysis, three constructs were identified from the 16 rating statements: (1) value of the program, (2) instructional program, and (3) career guidance. For the third factor, career guidance, three variables contributed significantly to the variance: years of FFA membership, adequacy of the land laboratory, and years of participation in supervised occupational experience.

From the literature and research reviewed in this chapter, it is readily apparent that little data existed to validate the educational value of using competition as a teaching method. Only three research efforts had been conducted concerning the FFA contests, and none had ever been done with participants across all contest areas at the national level. No effort prior to this research had attempted to follow-up on participants several years after their involvement in the contests.

Discussion concerning the appropriateness of the contests has been voiced beginning with the first issue of the Agricultural Education Magazine in 1929 (1). Identical concerns have continued to

surface throughout the history of the contests. It was the purpose of this research to provide some information on the benefits, both educationally and vocationally, received by contest participants, and to provide an empirical framework for future investigations.

METHODS AND PROCEDURES

The central purpose of this investigation was to determine the extent to which National FFA Contest participants had benefited from the skills training acquired from participation, and to ascertain the extent to which they were employed or preparing for employment in a career related to their contest area. To accomplish this purpose, the following research methodology was employed.

Design

As no previous follow-up studies had been conducted in this area, the research was exploratory in nature. A correlational design was used for this study, with selected causal-comparative statistical techniques applied where appropriate. The principal advantage of a correlational design is that it provides a measure of the degree of relationship between variables, and assists in gaining a better understanding of complex behavior patterns (4). In this study, the researcher attempted to determine if a relationship existed between contest training and vocational aspiration.

One weakness of correlational studies is that statistically significant correlations between variables in no way imply causality. The following diagram indicates the possibilities within any correlational situation, with O_a as the independent variable and O_b as the dependent variable (35):

1. O_a caused O_b: $O_a \rightarrow O_b$
2. O_b caused O_a: $O_b \rightarrow O_a$

3. Some third variable was responsible for both O_a and O_b: $O_a \neq O_b$.

With respect to this study, several pragmatic interpretations could be drawn: (1) contest-related occupational aspiration caused contest participation; (2) contest participation caused contest-related occupational aspiration; or (3) some other unmeasured variables were responsible for both contest participation and occupational aspiration.

Population

The population for this study consisted of the participants from all national FFA contest areas for the years 1979, 1980, and 1981. The study did not include years prior to 1979 as home addresses of participants were not collected before that year. Contestants who had participated in national contests after 1981 were excluded from the study as the research was designed to study participants who had completed their secondary education.

Sample

A selection of subjects for the study was made from a computer-generated list of names and addresses. Systematic sampling was used to obtain the sample from the defined population. Systematic sampling is an appropriate technique to employ for sample selection if one is certain that the population list is in random order--that is, if every (n)th person on the list does not share a common characteristic (4).

The researcher expected a low return rate because of the length of time that had transpired between the initial collection of the

participants' addresses and the time of the collection of the data for this study. Sample size was determined by following guidelines suggested by Garrett (24) for correlational studies. As no previous studies had been conducted in this area, no estimates of probable correlations were available to guide the researcher. It was determined by the researcher that a correlation of .40 at an alpha level of .01 would be the minimum acceptable correlation for use in the study (28). Since the procedure outlined by Garrett provides approximations for sample size, an alpha level of .01 was used to provide a conservative estimate of the number of subjects necessary for this study. The number needed to determine statistical significance was determined to be 25 individuals per cell. The smallest number of cells to be analyzed was nine, so a sample of 225 was determined to be the optimum number necessary. As the field test of the instrument yielded a return rate of 43 percent, it was determined that substitutes would be required. Substitutes were selected prior to the first mailing of the instrument using procedures outlined by Chapman (11). Whenever substitutes are used in a survey, four precautions need to be observed: (1) accurate records of which individuals are substitutes must be maintained; (2) data obtained from substitutes must be identified; (3) the level of substitution must be reported; and (4) substitutes should be treated as nonrespondents when calculating the survey response rate. These precautions were observed with the use of substitutes in this study.

Instrumentation

The instrument used to gather data for this investigation was developed by the researcher. Its primary purpose was to gather demographic data about the participants; to ascertain the benefits participants received from the contest experience; to determine the degree to which participants were using, or had used, the contest-acquired skills in a vocational capacity; and to determine the participants' occupational aspirations.

To ensure the validity of the instrument, it was reviewed by professors of agricultural education, research and evaluation, teachers of vocational agriculture, and graduate students at Iowa State University. The suggestions of the reviewers were incorporated into a revised instrument, which was subsequently field tested for reliability with a group of national contest participants not selected as a part of the sample (reported in Results).

The first section of the instrument collected information on the students' high school and FFA experiences (the complete instrument can be found in Appendix A). The researcher was primarily interested in determining the participants': degree of membership and involvement in the FFA, the number of semesters of vocational agriculture enrollment, academic ability, and the type of supervised occupational experiences conducted. In addition, data were collected to determine the participants' individual and team ranking in the national contest, and to ascertain their overall perception of the contest experience.

The second section of the instrument consisted of fifteen items

to measure the personal benefits the students received from participation in the contests. The researcher attempted to measure a broad range of educational, occupational, and interpersonal benefits. As there were no general objectives written to cover all contest areas, the researcher exercised considerable license in anticipating possible benefits. The participants' responses were recorded using a five point Likert-type scale.

Information concerning the participants' post-secondary education and accomplishments were collected. Participants were asked questions to determine how contest participation had benefited them in their post-secondary schooling, and to measure the relationship between their contest training and educational goals or objectives.

Occupational aspiration was determined using a "free response" level of occupational aspiration measurement (34). This technique asks the subject to respond to the question, "If you were free to choose any occupation for a lifelong career or job, it would be...." In addition, goal deflection (34) was measured by asking, "Knowing that there are certain obstacles which may prevent you from obtaining your ideal career choice, what do you feel you can achieve?" Participant responses to the two questions were coded using the North-Hatt occupational prestige score (36). The responses were also categorized as being: (1) directly contest related, (2) indirectly contest related, or (3) no relation to the contest training.

An important objective of this study was to measure the degree to which contest skills were being used by the participants in an

employment or business setting. Participants who were self-employed or full time employees were asked to respond to questions designed to solicit: the relationship of the contest skills to their current career situation, the degree to which they had used the skills in a job or business situation, and to project how valuable they believed the skills they had learned would be to them in the future. They were also asked for information concerning how beneficial the skills training had been to them in obtaining employment.

The final section of the instrument gathered demographic data concerning the respondents' personal and family history, gender, age, and place of residence.

Collection of Data

A cover letter, and the self-addressed research instrument were sent to the 225 selected participants on April 1, 1985. In addition, 299 instruments were mailed to substitutes. Nonrespondents from both groups (subjects and substitutes) were mailed a follow-up reminder and another instrument on April 15, 1985 (a copy of all correspondence can be found in Appendix B). A total of 138 instruments were returned by the subjects, for a response rate of 61 percent. Enough additional responses were obtained from the substitutes to satisfy the numbers needed for statistical analysis (see Table 1). One instrument was returned unusable because of the omission of responses to critical dependent variables. Eighty-eight substitutes were used in the data analysis. A follow-up phone call was made to 10 percent (9) of the

Table 1. Summary of survey response rate

	Number sampled	Number responding	Percent responding	Number unusable	Percent unusable	Total usable
Subjects	225	138	61.33%	1	0.72%	137
Substitutes	299	171	57.19%	0	0.00%	171
Totals	524	309	58.97%	1	0.32%	308

nonrespondents to determine if their answers differed significantly from respondents.

Data Analysis

The data collected in this study were coded on standard Fortran computer paper and transferred to floppy diskette using a commercial word processing program on a microcomputer. The data, once entered, were transmitted via telephone modem to the Iowa State University Computation Center for analysis. The data were analyzed using the statistical procedures included in the Statistical Package for the Social Sciences ($SPSS^X$) (47). The alpha for all tests was set at the .05 level. The following statistical techniques were used:

Procedure RELIABILITY was used to calculate the coefficient of internal consistency for the research instrument. Cronbach's Coefficient Alpha was used, as instrument items were not dichotomous.

The subprogram FREQUENCIES was performed to compute frequencies, percentages, means, and standard deviations for several variables. These distributions were used to describe the data.

Procedure CONDESCRIPTIVE was employed to compute descriptive statistics for continuous variables.

Procedure FACTOR was used for data reduction on the fifteen variables used to measure the participants' perceived benefits from contest participation. The constructs identified were used in data analysis to determine significant differences between the major groups on the independent variables.

Procedure ONEWAY was used to produce a one-way analysis of variance to determine if a significant difference existed among groups (for example: contest area, contest year, age, gender, region, academic ability, and location of residence). Duncan's multiple range test was used to determine where the differences existed as the groups contained unequal numbers.

The REGRESSION procedure was employed to calculate a multiple regression equation and associated statistics. It was used by the researcher to determine the correlation between contest related occupational aspirations, perceived benefits, and combinations of independent variables.

Procedure DISCRIMINANT was used to discriminate among groups on the relationships between contest related occupation and the major independent variables.

Subprogram CROSSTABS with chi-square was used to compare the observed frequency of participants with contest related occupational aspirations with those statistically expected.

Subprogram T-TEST was employed to determine if significant differences in mean scores existed between the sexes.

FINDINGS

Data collected as a part of this investigation were analyzed to satisfy the objectives listed in the introductory segment of this document. Participant responses were grouped and appropriate statistics were generated for each variable. Results of the data analysis are presented in the following order: 1) Evaluation of data collection procedures and instrumentation, 2) descriptive analysis of contest participants, 3) degree to which contest participants were employed or preparing for employment in contest-related capacities, 4) perceived personal, educational, and occupational benefits received by participants, 5) relationships among participant characteristics and occupational aspirations, and 6) summary of major findings.

Evaluation of Procedures and Instrumentation

Data to fulfill the objectives of this study were provided by 225 participants in the national FFA judging contests from the years 1979 through 1981. The sample represented a cross-section of members from all contest areas and geographic locations around the nation. Participants provided information related to their personal backgrounds, aspirations, and accomplishments. They were asked to reflect on the value of an educational experience they had participated in as an adolescent.

The instrument used to collect the data for this study was field tested with a group of national contest participants not selected as a part of the sample. The test instrument was mailed to 100 individuals

and 43 completed surveys were returned for evaluation. An estimate of anticipated response for the final mailing was determined as a result of the field test. Responses from the field test were coded and analyzed for reliability by computing Cronbach's Coefficient Alpha. The total instrument reliability from the field test was estimated to be .82, with all individual concept measures having reliability coefficients greater than .90. Reliability coefficients of this magnitude were considered to be quite adequate for an instrument of this type and no modifications were made to the questionnaire prior to its eventual mailing.

The instruments returned by the 225 subjects selected for use in this study yielded reliability coefficients nearly identical to those found in the field test. These coefficients are reported in Table 2. The participants were asked to respond to fifteen items using a five-point Likert-type scale designed to measure the occupational, educational, and interpersonal benefits they received from participating in the contests. An eleven-point Likert-type scale was used to measure the post-secondary educational advantages received by participants and the occupational advantages received by those participants who had entered the job market. A "free response" question was used to measure occupational aspiration, and answers were coded as being either: 1) directly contest related, 2) indirectly contest related, and 3) unrelated. The total instrument reliability on all measures resulted in a reliability coefficient of .80.

Participants were asked to provide information concerning their

Table 2. Summary of survey instrument reliability

Concept	Cronbach's Alpha Coefficient
Educational, occupational, and interpersonal benefits	.91
Perceived educational advantages--still in school	.93
Perceived educational advantage--completed formal schooling	.98
Total instrument reliability	.80

high school educational experiences. Data were collected concerning their: years of FFA membership, semesters of vocational agriculture enrollment, involvement in FFA and other high school activities, academic ability, school size, enrollment in vocational agriculture, and size of FFA chapter. Their responses were visually analyzed and any not considered tenable were coded as missing data.

Respondents were also queried concerning the FFA contest(s) in which they had participated. In particular, instrument items were included to ascertain: the contest(s) they participated in, their individual and team rank, the year they participated, and the number of times they participated. Two eleven-point Likert-type scale items were included to evaluate their attitudes concerning the overall educational experience provided. Participants were asked to respond to two "free response" items to ascertain any positive or negative experiences they may have had from participation. These items were grouped by common category and coded for ease of data analysis.

Select demographic data were also collected to determine the individual's gender, age, family size, and place of residence.

Descriptive Information

The 225 subjects included in this study were selected by systematic sampling from a computer-generated list of names and addresses. Seventy-seven percent of the participants had been FFA members for four or more years, and 61 percent held the degree of state farmer or higher. The majority (74 percent) of the participants had received at least four years of instruction in vocational agriculture (Table 3).

Academically, the participants were particularly talented. Sixty-eight percent were in the top quarter of their high school graduating class. They attended schools that had enrollments ranging from 80 to 3000 students, with a mean enrollment of 861. The average number of students in their vocational agriculture program was 116, with a mean FFA membership of 87.

Twenty-nine percent of those participating had not conducted a supervised occupational experience (often referred to as an SOE, and used as such in the remainder of this manuscript), 52 percent conducted programs in either animal or crop production. The majority of students who had conducted an SOE (50 percent) had programs that combined both ownership and work experience. Those students who conducted an SOE were asked how closely related their SOE was to their contest training. They responded using an eleven-point Likert-type scale with a one representing "no relation" and an eleven representing a "close relation."

Table 3. Participant vocational agriculture and FFA data

Characteristic	N	%
Highest Degree Attained (1-4)		
Greenhand (1)	19	8.4
Chapter Farmer (2)	70	31.1
State Farmer (3)	114	50.7
American Farmer (4)	22	9.8
Total	225	100
Years of Membership		
0-1	5	2.2
2-3	47	20.9
4-5	126	56.0
6-7	44	19.6
8	3	1.3
Total	225	100
Mean	4.35	
SD	1.48	
Semesters of Vocational Agriculture Enrollment		
1-2	14	6.2
3-4	19	8.4
5-6	26	11.6
7-8	166	73.8
Total	225	100
Mean	4.35	
SD	0.89	

The question yielded a mean response of 7.39 with a standard deviation of 2.98. A summary of the participants' SOE can be found in Table 4.

Seventy-five percent of the participants were fully employed at the time of the survey, with 6 percent seeking employment. Nineteen percent were either full-time students or homemakers and had never held a full-time position of any kind.

Table 4. Participant supervised occupational experience data

Characteristic	N	%
Supervised Occupational Experience Category		
None	65	28.9
Agricultural production	118	52.4
Agricultural sales and service	12	5.3
Horticulture	18	8.0
Agricultural products and processing	3	1.3
Renewable resources	0	0.0
Forestry	1	0.4
Total	225	100
Supervised Occupational Experience Type		
Production or ownership	56	35.0
Work experience	24	15.0
Both production and work experience	80	50.0
Total	160	100

The participants were primarily raised on farms (60 percent) or nonfarm country homes (14 percent). One hundred fifty-four of the 225 subjects in this study were male (68 percent). Their average age at their last birthday was 21.32 years. A summary of the participants' personal data can be found in Table 5.

Participant Occupational Use of Contest Skills

One of the major objectives of this study was to determine the degree to which participants were employed or preparing for employment in contest-related occupations. Those participants that had held full-time positions (employed at least 40 hours weekly), or had been self-employed were asked to respond to four Likert-type questions to determine: 1) the relationship of their contest training to their

Table 5. Participant personal data

Characteristic	N	%
Location of residence		
On a farm	135	60.0
Nonfarm country home	31	13.8
Small town with a population less than 2500	16	7.1
Town with a population between 2500 and 5000	12	5.3
Town with a population between 5000 and 50,000	17	7.6
City with a population over 50,000	14	6.2
Total	225	100
Region of the country		
North Atlantic	47	20.9
South	48	21.3
Central	78	34.7
West	52	23.1
Sex		
Male	154	68.4
Female	71	31.6
Total	225	100
Age at last birthday		
18	5	2.2
19	14	6.2
20	42	18.7
21	66	29.3
22	54	24.0
23	29	12.0
24	15	6.7
Total	225	100
Mean	21.32	
SD	1.38	

current job or business, 2) the extent to which they had ever used the contest skills in an employment or business situation, 3) the extent to which they believed the skills would be advantageous to their employers or businesses in the future, and 4) the extent to which their contest skills had been beneficial to them in securing employment or

business opportunities.

Several tests were conducted to determine if significant differences among means existed in response to the above questions. When grouped according to selected factors, no significant differences (α = .05) in F-values could be determined for the following group differences: age, location of residence, semesters of vocational agriculture enrollment, FFA degree held, FFA office held, supervised occupational type and category, or by contest ranking (Table 6).

Highly significant differences in means between sexes were found to exist for three of the four measures of occupational advantages when the data were analyzed by the use of t-tests. Males believed they received more advantage when it came to the use of their skills in occupations. The lowest scores for females were found on measures to determine the relationship of their contest training to their current occupations ($\bar{x}$ = 4.53). Males and females perceived similar advantages in obtaining employment from having participated in the contests. These findings are summarized in Table 7.

Significant differences in F-values were found to exist at the .05 level among the different contest areas. A summary of those findings can be found in Table 8. Duncan's multiple range test was employed to ascertain which contests had significantly different means. Differences were found to exist on the measure of the relationship between their current position and their contest training. Participants from the Agricultural Mechanics, Livestock, Dairy Cattle, Farm Business Management, and Dairy Products contests all held positions more closely

Table 6. F-values and F-probabilities by select independent variables

Variable		Occupational advantage			
		1[a]	2[b]	3[c]	4[d]
Age	F-value	2.06	2.06	1.2	2.11
	F-prob	.06	.059	.312	.054
Academic ability		.35	.71	.67	.76
		.788	.545	.571	.511
Location of residence		1.52	1.05	1.91	1.49
		.185	.39	.093	.196
SOE type		2.03	2.44	1.11	2.53
		.112	.066	.346	.059
SOE category		1.23	1.25	1.77	1.2
		.295	.288	.122	.312
FFA degree held		.95	.98	2.16	.95
		.416	.402	.094	.415
FFA office held		1.46	1.01	.93	.43
		.208	.406	.448	.789
Semesters of vo-ag enrollment		.95	.13	.27	.35
		.416	.945	.845	.792

[a]Relationship of contest training to current occupation.
[b]Degree to which contest skills have been used in employment.
[c]Degree to which contest skills will be valuable to employers in the future.
[d]Degree to which contest skills have been beneficial in obtaining employment.

Table 7. Male and female group means, standard deviations, t-values, and t-probabilities by occupational advantage scores

Occupational advantage	Total	Group		t-value	t-prob
		Males	Females		
	n=172[a]	n=125	n=47		
Relationship of contest[b] training to current employment	M[c]	6.31	4.53	3.34**	.001
	SD[d]	3.21	3.08		
Degree to which contest[e] skills have been used in employment situation		7.28	5.85	2.96**	.004
		2.84	2.81		
Degree to which contest[f] skills will be valuable to employer in the future		7.48	6.13	2.53*	.014
		2.87	3.20		
Degree to which contest[g] skills have been beneficial in obtaining employment		7.02	6.32	1.45	.151
		2.84	2.80		

[a]Only those respondents who had been full-time employees or self-employed completed these instrument items.

[b]Scale ranged 1 to 11 with 1 representing "no relation" and 11 "close relation."

[c]M = Group mean.

[d]SD = Standard deviation.

[e]Scale ranged from 1 to 11 with 1 representing "never" and 11 "frequently."

[f]Scale ranged from 1 to 11 with 1 representing "no value" and 11 "great value."

[g]Scale ranged from 1 to 11 with 1 representing "no benefit" and 11 "large benefit."

*Significant at .05 level.

**Significant at .01 level.

Table 8. Analysis of variance summary for occupational advantage scores by contest area

Occupational advantage score		Total	Contest[a] 1	2	3	4	5	6	7	8	9	F-value	F-prob.
		n=172	n=23	n=23	n=20	n=20	n=22	n=13	n=17	n=17	n=17		
Relationship of contest training to current employment	M[b]	5.83[c]	7.39	6.61	5.90	5.35	7.23	5.08	5.88	4.18	3.14	3.55**	.000
	SD[d]	3.27	3.07	3.07	3.11	3.72	2.33	2.75	3.14	3.80	2.45		
Degree to which contest skills have been used in an employment situation		6.89	8.30	7.13	6.70	6.60	7.55	6.69	6.00	6.59	5.71	1.50	.159
		2.90	2.58	3.03	2.23	2.74	2.56	2.84	3.30	3.71	2.73		
Degree to which contest skills will be valuable to employer in ten years.		7.11	6.69	8.09	7.70	6.60	8.00	6.31	6.76	6.12	6.65	1.15	.334
		3.01	2.97	2.64	2.87	2.95	2.25	2.39	3.17	4.36	3.18		
Degree to which contest skills have been beneficial in obtaining employment		6.83	6.43	8.09	6.10	6.30	7.82	5.69	7.24	7.35	5.76	1.97	.053
		2.84	3.10	2.09	2.75	2.77	2.30	2.78	2.75	3.90	2.33		

[a]Contests: 1 = Agricultural Mechanics, 2 = Dairy Cattle, 3 = Farm Business Management, 4 = Floriculture, 5 = Livestock, 6 = Meats, 7 = Dairy Products, 8 = Nursery/Landscape, 9 = Poultry.
[b]M = Group mean.
[c]Scale described in Table 7.
[d]SD = Standard deviation.
**Significant at the .01 level.

related to their contest training than did contestants from the Poultry contest. In addition, contestants from the Agricultural Mechanics, Livestock, and Dairy Cattle contests had significantly higher means than Nursery/Landscape participants. No significant differences in variance by contest area could be determined for the other three measures of occupational advantages received by participants.

Analysis of variance also indicated a significant difference in F-values by FFA region (Table 9). Participants from the Southern FFA region were found to have received more benefit in obtaining employment from having participated in the contests than did those from the Central and Western regions. No other regional differences were determined to exist.

In total, participants scored their anticipated use of the contest skills the highest ($\bar{x} = 7.11$). The lowest mean score (5.82) was found for the relationship of the contest training to their current position. These two scores would indicate that the participants were not yet employed in the capacity to which they aspired.

As the participants in this study were still relatively young, all respondents were asked to complete a "free response" question to determine their occupational aspirations. The answers were coded as to the level of aspiration using a North-Hatt (36) occupational prestige score, and were also placed in one of three discrete categories representing the relationship between their aspirations and their contests training. Respondents were also asked to complete another "free response" question to measure their realistically expected level of

Table 9. Analysis of variance summary for occupational advantage scores by FFA region

Occupational[b] advantage		Total	FFA Region[a] 1	2	3	4	F-value	F-prob.
Relationship of contest training to current employment	M[c]	5.82	5.29	6.51	5.59	6.11	1.12	.342
	SD[d]	3.27	3.07	3.07	3.11	3.72		
Degree to which contest skills have been used in an employment situation		6.89	7.43	7.43	6.47	6.36	1.73	.162
		2.90	2.48	2.99	2.82	3.25		
Degree to which contest skills will be valuable to employer in the future		7.11	7.17	7.92	6.67	6.89	1.38	.251
		3.01	2.70	3.04	2.97	3.33		
Degree to which contest skills have been beneficial in obtaining employment		6.83	6.95	8.11	6.30	6.19	4.00**	.009
		2.84	3.10	2.09	2.75	2.77		

[a]Region key: 1 = North Atlantic, 2 = Souther, 3 = Central, 4 = Western.
[b]Scale explained in Table 7.
[c]M = Group mean.
[d]SD = Standard deviation.
**Signifiant at the .01 level.

aspiration.

Participants were found to have a mean North-Hatt score of 57.60 with a standard deviation of 15.50. Their realistically expected level of aspiration was determined to be 51.30 with a standard deviation of 15.00. These aspiration levels are consistent with those expected for students enrolled in a vocational education program. No analyses to explain differences in aspiration among groups were conducted as these

measures were a minor component of this study, and many previous research efforts have adequately explained the variables contributing to occupational aspiration (34).

The number of individuals with occupational aspirations directly related, indirectly related, or unrelated to their contest training can be found in Table 10. As the responses were placed in discrete categories, the chi-square test of independence was employed to determine if the frequencies observed were independent of contest area. No contest was found to have a significantly higher proportion of participants aspiring to related occupations. The chi-square test failed to show that the observed differences were not the result of sampling fluctuation. Thirty-seven percent of the participants were found to have aspirations directly related to their contest training, 26 percent aspired to related occupations, while 37 percent had aspirations totally unrelated to their contest area.

Personal Benefits

Respondent attitudes concerning the benefits they received from participation in the contests were measured by having students react to 15 benefit statements. A five-point Likert-type scale was used to measure benefits with responses coded as: 1 = none, 2 = little, 3 = some, 4 = much, and 5 = very much. Data in Table 11 summarize the mean response scores for each statement.

Participants believed they received the greatest benefit on measures of interpersonal benefits. The contests help in creating

Table 10. Chi-square test between observed and expected frequencies for occupational aspiration by contest area

Contest Area		Total	Relationship		
			1	2	3
Agricultural Mechanics	O[a]	25	13	6	6
	E[b]	25	9.22	6.56	9.22
Dairy Cattle		29	9	7	13
		29.16	10.70	7.76	10.70
Farm Business Management		28	10	7	11
		28	10.33	7.34	10.33
Floriculture		24	6	6	12
		24	8.85	6.3	8.85
Livestock		32	15	10	7
		31.99	11.80	8.39	11.80
Meats		18	3	8	7
		18	6.64	4.72	6.64
Dairy Products and Milk Quality		20	10	6	4
		20	7.38	5.24	7.38
Nursery/Landscape		23	12	3	8
		22.99	8.48	6.03	8.48
Poultry		26	5	6	15
		26	9.59	6.82	9.59
Totals		225[c]	83	59	83
		225	82.90	59.20	82.90

[a]O = Observed values.
[b]E = Expected values.
[c]Chi-square test statistic 24.01 for sixteen degrees of freedom (p=.089).

Table 11. Mean scores, and standard deviations for measures of benefits from participation in national contests

Statement of benefit	Mean	SD
The contests helped me to:		
choose an occupation	2.96[a]	1.25
develop my self-confidence	4.20	0.80
develop an interest in learning	3.98	0.90
set my educational objectives	3.21	1.11
improve my communication skills	3.69	1.14
improve my computational skills	2.85	1.14
become more employable	3.33	1.22
improve my self-esteem	4.01	0.91
improve my social status and prestige	3.37	1.16
improve my ability to relate to others	3.81	1.06
develop hobbies and leisure activities	3.20	1.30
improve my leadership skills	3.96	1.06
gain occupational skills and competencies	3.68	1.08
develop my problem-solving skills	3.66	1.06
improve my decision-making skills	3.97	0.96

[a]Scale: 1 = none, 2 = little, 3 = some, 4 = much, 5 = very much.

"self-confidence" received the highest mean score ($\bar{x} = 4.20$). This was followed by another interpersonal benefit, "improving self-esteem" which had a mean score of 4.01. Both of these measures had small standard deviations when compared to the other benefit statements. The benefit statement receiving the lowest score was in the area of improvements to the competitor's computational skills ($\bar{x} = 2.85$). A summary of the responses to the 15 benefit statements can be found in Table 11.

The fifteen benefit statements were examined by factor analysis using the principal components method with varimax rotation. Three

factors were identified and are summarized in Table 12. The three benefit factors were labeled as: 1) interpersonal benefits, 2) skill

Table 12. Factor loadings for benefit statements

Factor item	Loading
Factor 1: (Interpersonal Benefits)	
improve my communication skills	0.79
improve my ability to relate to others	0.77
improve my leadership skills	0.66
develop an interest in learning	0.65
develop my self-confidence	0.64
develop hobbies and leisure activities	0.59
improve my social status and prestige	0.43
Factor 2: (Skills Development)	
develop my problem-solving skills	0.82
improve my decision-making skills	0.70
improve my computational skills	0.59
gain occupational skills and competencies	0.58
become more employable	0.55
improve my self-esteem	0.53
Factor 3: (Goal Setting)	
choose an occupation	0.80
set my educational objectives	0.78

development, and 3) goal setting. A score on each factor was created for each participant by multiplying their raw score by the factor loadings. These transformed scores (factors) were subsequently analyzed by one-way analysis of variance and t-test procedures.

No significant differences in means for the three factors were determined to exist between participants by sex. These findings are

summarized in Table 13. In addition, no differences in variance were found among group means when compared by: academic ability, SOE type

Table 13. Male and female group means, standard deviations, t-values, and t-probabilities by benefit factor scores

Factor[a]		Group		t-value	t-prob.
		Males	Females		
		n=154	n=71		
Interpersonal Benefits	M[b]	16.83	17.58	-1.64	.103
	SD[c]	3.82	2.85		
Skill Development		13.66	13.43	0.54	.591
		3.01	3.03		
Goal Setting		4.88	4.85	0.12	.907
		1.63	1.75		

[a]Factor loadings explained in Table 12.
[b]M = Group mean.
[c]SD = Standard deviation.

or category, FFA degree, FFA office held, or semesters of vocational agriculture enrollment (Table 14).

Significant differences were found to exist among contest areas. These differences are summarized in Table 15. Participants from Dairy Cattle, Livestock, Dairy Products, Floriculture, and Poultry all had significantly higher scores on measures of interpersonal benefits received from participation than did contestants who had participated in the Farm Business Management contest. Four of the contests were found to have significantly higher means on interpersonal benefit scores than Agricultural Mechanics. These differences are depicted in Table 16.

Table 14. F-values and F-probabilities by selected independent variables

Variable		Factor score[a]		
		1	2	3
Academic ability	F-value	1.01	.96	.24
	F-prob.	.388	.413	.868
SOE type		.43	.32	2.06
		.654	.730	.131
SOE category		.900	1.40	.610
		.442	.251	.653
FFA degree held		2.15	1.01	1.30
		.100	.553	.272
FFA office held		.640	2.28	.880
		.637	.060	.491
Semesters of vo-ag enrollment		.880	.901	.703
		.445	.441	.551

[a]Factors explained in Table 12.

Table 15. Analysis of variance summary for benefit factors by contest area

Benefit[b] factors		Total	Contest[a] 1	2	3	4	5	6	7	8	9	F-value	F-prob.
		n=225											
Interpersonal Benefits	M[c]	17.07	15.19	18.58	14.88	17.22	18.42	16.20	18.18	16.56	17.94	4.61**	.000
	SD[d]	3.55	3.60	2.55	4.56	3.27	2.77	3.16	2.74	3.94	2.97		
Skill Development		13.59	13.39	14.64	13.77	13.20	13.77	13.18	13.79	13.23	13.01	.738	.658
		3.01	3.24	2.34	2.91	3.42	3.10	2.94	3.06	3.50	2.68		
Goal Setting		4.87	4.76	5.24	4.84	5.02	4.75	4.86	5.20	4.77	4.42	.573	.799
		1.67	1.85	1.50	1.60	1.68	1.55	1.65	1.80	1.80	1.74		

[a]Contests: 1 = Agricultural Mechanics, 2 = Dairy Cattle, 3 = Farm Business Management, 4 = Floriculture, 5 = Livestock, 6 = Meats, 7 = Dairy Products, 8 = Nursery/Landscape, 9 = Poultry.
[b]Factor loadings explained in Table 12.
[c]M = Group mean.
[d]SD = Standard deviation.
**Significant at .01 level.

Table 16. Statistically significant differences in group means for factor 1[a] by contest

Contest	Contest[b]								
	1	2	3	4	5	6	7	8	9
1. Agricultural Mechanics[c]									
2. Dairy Cattle	x		x			x			
3. Farm Business Management									
4. Floriculture			x						
5. Livestock	x		x			x			
6. Meats									
7. Dairy Products	x		x						
8. Nursery/Landscape									
9. Poultry	x		x						

[a]Factor loadings explained in Table 12.
[b]Contests: 1 = Agricultural Mechanics, 2 = Dairy Cattle, 3 = Farm Business Management, 4 = Floriculture, 5 = Livestock, 6 = Meats, 7 = Dairy Products, 8 = Nursery/Landscape, 9 = Poultry.
[c]Row means are significantly higher than column means.

Significant differences among regions were also observed on benefit measures. Participants from the Southern region were found to have higher mean scores on interpersonal benefits than were contestants from the North Atlantic and Central regions. Participants from the Southern region also perceived an advantage in skills development over contestants from the North Atlantic region. Central region participants believed the contests gave them a greater advantage in goal setting than did participants from the North Atlantic area (Table 17).

Contestants raised on farms or in nonfarm country homes believed that they benefited significantly more in the areas of skills development and goal setting than did participants from large urban areas. Data in Table 18 summarize the findings by location of residence.

Table 17. Analysis of variance summary for benefit factors by FFA region

Benefit factor[b]		Total	FFA region[a] 1	2	3	4	F-value	F-prob.
		n=225	n=47	n=48	n=78	n=52		
Interpersonal Benefits	M[c]	17.07	16.53	18.34	16.58	17.11	2.99*	.032
	SD[d]	3.50	3.11	2.82	3.81	3.90		
Skills Development		13.59	12.82	14.26	13.81	13.34	2.11	.100
		3.01	2.62	2.87	2.89	3.51		
Goal Setting		4.87	4.39	4.92	5.25	4.67	3.01*	.031
		1.67	1.52	1.58	1.66	1.77		

[a]Region key: 1 = North Atlantic, 2 = Southern, 3 = Central, and 4 = Western.
[b]Factor loadings explained in Table 12.
[c]M = Group mean.
[d]SD = Standard deviation.
*Significant at the .05 level.

Table 18. Analysis of variance summary for benefit factors by location of residence

Benefit[b] factors		Total	Location of residence[a] 1	2	3	4	5	6	F-value	F-prob.
		n=225	n=135	n=31	n=16	n=12	n=17	n=14		
Interpersonal Benefits	M[c]	17.07	17.19	17.80	17.32	17.23	15.80	15.39	1.39	.229
	SD[d]	3.55	3.70	3.04	2.86	3.25	4.39	2.39		
Skill Development		13.59	13.91	14.22	13.09	12.76	12.84	11.29	2.82*	.017
		3.01	2.88	2.73	2.09	3.09	4.03	3.30		
Goal Setting		4.87	5.08	5.01	3.89	4.66	4.73	3.99	2.49*	.032
		1.67	1.67	1.65	1.45	1.33	1.70	1.68		

[a]Location of residence key: 1 = on a farm, 2 = nonfarm country home, 3 = town with population less than 2500, 4 = town with population between 2500 and 5000, 5 = town with population between 5000 and 50,000, 6 = city with population over 50,000.
[b]Factor loadings explained in Table 12.
[c]M = Group mean.
[d]SD = Standard deviation.
*Significant at the .05 level.

Participant performance in the contest had a distinct impact on measures reflecting benefits received. Contestants receiving gold placings had significantly higher mean scores on skill development than did participants receiving a bronze or particiation. An advantage in goal setting was found for participants earning a gold or silver ranking over those receiving a participation. Differences by contest ranking are summarized in Table 19.

Table 19. Analysis of variance summary for benefit factors by contest ranking

Benefit factor[b]		Total	Contest ranking[a] 1	2	3	4	F-value	F-prob.
			n=225	n=74	n=71	n=37	n=43	
Interpersonal Benefits	M[c]	17.07	17.50	17.36	15.73	17.00	2.31	.076
	SD[d]	3.55	3.54	3.46	3.76	3.38		
Skills Development		13.59	14.24	13.71	12.77	12.98	2.76*	.043
		3.01	2.66	2.93	3.16	3.36		
Goal Setting		4.87	5.13	5.08	4.87	4.05	4.70**	.003
		1.67	1.54	1.75	1.57	1.60		

[a]Ranking key: 1 = Gold, 2 = Silver, 3 = Bronze, 4 = Participation.
[b]Factor loadings explained in Table 12.
[c]M = Group mean.
[d]SD = Standard deviation.
*Significant at the .05 level.
**Significant at the .01 level.

Two groups were formed to measure the post-secondary educational benefits that respondents received from having participated in the contests. The groups consisted of those that had completed their formal education and those that had not. Of those that had completed their

education: 24 percent had bachelor's degrees, 17 percent had associate degrees, 13 percent had certificates from vocational schools, and 46 percent had finished their formal education immediately following high school graduation. Of those still in school: 38 percent had aspirations for master's degrees or higher, 39 percent were seeking bachelor's degrees, 7 percent were aspiring to associate degrees, while 6 percent were receiving training in vocational schools. Educational accomplishments and aspirations are summarized in Table 20.

Table 20. Educational accomplishments and aspirations of contest participants

Level of education	N	Percent
Completed schooling		
High school diplomas	39	46.4
Vocational certificates	11	13.1
Associate of Arts	14	16.7
Bachelor's	20	23.8
Totals	84	100
Still in school		
High school diplomas	2	7
Vocational certificates	14	9.7
Associate of Arts	10	7
Bachelor's	55	38.5
Master's or higher	54	37.8
Total	135	100.0
Missing values	6	2.6

Both groups were asked to respond to two questions concerning their post-secondary education: 1) to estimate the relationship of

their post-secondary schooling to their contest training, and 2) to estimate the degree to which their contest training had benefited them in their post-secondary education. The combined group responses to the question that established the relationship of post-secondary education to contest training had a composite mean value of 6.40, with a one representing "no relation" and eleven a "close relation." Participants believed the contest training had benefited them in their post-secondary education. The composite mean value on the benefit measure was 6.95, with a one representing "no benefit" and eleven "great benefit." These findings are summarized in Table 21.

Table 21. Completed formal education and still in school group means, standard deviations, and t-probabilities by educational relationship and benefit scores for post-secondary education

Benefit and relationship measures		Total	Groups		t-value	t-prob.
			Completed education	Still in school		
		n=182	n=45	n=137		
Relationship of contest training to education	M[a]	6.40	6.31	6.43	-0.51	.614
	SD[b]	3.04	3.27	2.96		
Benefit of contest training to education		6.95	6.42	7.12	-1.45	.151
		2.41	2.97	2.23		

[a]M = Group mean.
[b]SD = Standard deviation.

Participants were also given the chance to respond to an open-ended question concerning contest benefits. They were asked to identify

what they believed was the most important benefit they had received from participation. Six percent of the participants chose not to respond. Of those listing a benefit: 38 percent listed a content related educational benefit, 35 percent had a response that could be classified as an interpersonal benefit, whereas 21 percent listed a benefit that was best classified as social (travel or opportunity to meet people).

Participants were also given an opportunity to respond to an open-ended question soliciting any negative feelings they may have had about the contests. Fifty-three percent of the contestants chose not to respond. Of those that did respond: 21 percent felt that too much time was required for practice and travel, 6 percent listed personality problems between them and their advisors, 6 percent had problems with handling the stress created by competition, while 14 percent listed problems with contest content.

Relationship of Participant Characteristics to Perceived Benefits and Occupational Aspirations

One of the major objectives of this study was to determine if relationships could be established between participant characteristics and the benefits they received from contest participation. The researcher was also concerned with profiling the participant most likely to have a contest-related occupation. To accomplish this purpose, several multivariate correlation techniques were employed.

To ease in data analysis and contribute to making the results less

difficult to interpret, two variables were transformed into new categories. The category of SOE conducted was collapsed into a dichotomy representing whether or not the individual had conducted an SOE. A new category for education was created by combining the level of education aspired to with the group that had completed their formal schooling. This was deemed justifiable based on the t-test summarized in Table 21, and from the mean confidence score those still in school assigned to their ability to complete their education ($\bar{x} = 9.73$ on an eleven-point scale with an 11 representing high certainty). These two characteristics along with a host of other independent variables were subsequently loaded into the multivariate equations for analysis.

Multiple regression was employed to determine if significant relationships could be identified among the independent variables and the three benefit factors identified previously (see Table 12). No significant relationships could be identified for any of the three criterion variables. The best combination of independent variables for any of the three multiple regression equations could account for only 8.5% of the total variance. As this left 91.5 of the variance for the criterion variable unexplained, it was determined that benefits received were evenly distributed across participants expressing a variety of characteristics.

Discriminant analysis was used to identify the characteristics of those individuals comprising the three categories of contest occupational aspiration. Group one consisted of those individuals with aspirations directly related to their area of training, group two consisted

of individuals with occupational aspirations indirectly related to their contest training, and group three represented individuals with aspirations totally unrelated to their contest area. The functions identified and their respective discriminating variables are summarized in Table 22.

The discriminating variables that best identified those individuals having contest-related aspirations are: the level of post-secondary education aspired to or completed, the level of FFA office held (chapter, district, state, or national), whether or not an SOE was conducted, and their academic ability (quartile in graduating class). These four discriminating variables accounted for 91 percent of the variance explaining this function. An examination of the group centroids for each of the discriminant variables indicated that members of this group, when compared to the other two groups: aspired to or completed less education after high school, were less likely to be FFA officers, were less likely to conduct SOEs, and were poorer students. It must be remembered that this is just in comparison to the other two groups and that actual differences in scores or characteristics are not that large.

The variables used to distinguish participants most likely to have occupational aspirations indirectly related to their contest training were: years of membership in the FFA, their individual contest ranking, the FFA degree that they held, and the location of their residence. These four discriminating variables contributed 80 percent of the variance explaining this function. A profile of this group's members, based on the most significant discriminating variables, would show that they

Table 22. Summary of within-group canonical correlations between discriminant functions and discriminating variables

Discriminating variable	Canonical correlation	Percent of variance	Wilks' Lambda	Chi-squared	DF	Significance
Function 1: Group with directly related aspirations						
Level of education aspired to or completed	.682	74.91	.732	68.06**	14	.000
Level at which FFA office has been held	.468					
Conducted an SOE	.402					
Quartile of graduating class	.281					
Sex	.231					
Type of SOE	.184					
Function 2: Group with indirectly related aspirations						
Years of FFA membership	.769	25.09	.921	18.06**	6	.006
Individual contest ranking	.592					
FFA degree held	.583					
Location of residence	.572					
FFA region	.515					
Times participating in the contests	.365					

**Significant at the .01 level.

were likely to have been FFA members for longer, would rank in the middle of the two groups in contest performance, would have earned higher degrees in the FFA, and would not have as many of its group members raised on farms when compared to the first group.

Major Findings

The following statements summarize the major findings important to this investigation.

1. Females were less likely than males to have received occupational advantages from contest participation. They had significantly lower mean scores on three of four measures.
2. Significant differences in mean scores measuring the relationship of the participants' current occupation to their contest training were found to exist among contest areas.
3. Significant differences in measures to ascertain the contests' benefit in assisting participants in obtaining employment were found to exist among regions. Participants from the Southern region were found to have received more advantage in obtaining employment than those from the Central and Western regions.
4. The highest perceived occupational advantage score across all groups was found to be for anticipated future use of the skills, with the lowest for the relationship of the contest training to their current occupation.
5. Thirty-seven percent of the participants had occupational aspirations directly related to their contest training. An additional

26 percent had occupational aspirations indirectly related to their contest area.

6. No one contest area was observed to have a higher proportion of participants aspiring to contest-related occupations.
7. The most important benefits participants received from contest judging were interpersonal; e.g., building self-confidence and self-esteem.
8. Benefits perceived by participants were dependent on several characteristics including: contest area, FFA region, location of residence, and individual contest ranking.
9. No significant relationships could be determined among participant characteristics and perceived benefits.
10. Participants with contest-related occupational aspirations: had lower educational aspirations, were less likely to be FFA officers, were less likely to conduct SOEs, and were poorer students academically than the other groups studied.

DISCUSSION

The primary purpose of this investigation was to evaluate the effectiveness of the national FFA contests as an instructional tool in support of the objectives of the vocational agriculture program. As such, the central question for this study was to determine the extent to which participants were employed or preparing for employment in the capacity for which they were trained.

Data to satisfy the objectives of this study were collected by a mailed questionnaire sent to individuals who had participated in the contests from the years 1979 to 1981. The survey instrument was constructed by the researcher with the assistance of experts knowledgeable about the national FFA contests and the curriculum in vocational agriculture. The response rate was higher (61 percent) than what the field test indicated it would be. Substitutes were selected by accepted standards to secure the predetermined sample size. A 10 percent random sample of nonrespondents were interviewed by telephone. No significant differences between respondents and nonrespondents were observed on key instrument items. The researcher was satisfied that an unbiased sample was obtained, and was comfortable with generalizing the findings to the population.

The design of this study was sufficient in that all major objectives were satisfied. No previous research efforts had been conducted in this area to guide in the development of the design. Several precautions were observed and instrument items included that in retrospect

were unnecessary. Future researchers should benefit from findings in this study relevant to the population, and they would be well advised to examine those tables showing no significant differences on a variety of independent variables.

As no measurable objectives across all contest areas existed, interpreting the practical significance of the findings from this study was difficult. The researcher was particularly concerned that the breadth of the findings would create more controversy than was actually warranted. Certainly, anyone, regardless of their viewpoint concerning the value of the national contest program, will be able to find statistics in this study to strengthen their arguments. Controversy revolving around the value of the contests has existed for more than 55 years. It would be premature to make definitive conclusions as to the contribution the contests make to the total vocational agriculture program, based on the findings from this single exploratory study.

All previous research efforts dealing with the contests had collected their data from participants at the time of the contest judging in Kansas City. It was easy to see how participants were extremely positive about the contest experience while they were engrossed in the excitement and enthusiasm that accompanied the national FFA convention and its associated activities. This was the first study to collect data from adults asking them to reflect on the educational benefits they had received from their contest participation. In order to respond to the instrument items, participants had to think back in time five to six years. Their answers as a group were extremely positive. They

rated the overall educational experience of the contests with a mean value of 9.0 on an eleven-point scale (1 = poor, 11 = excellent). When asked, "If you could repeat your high school education, how likely would it be that you would attempt to acquire the same skills that you learned in preparing for and participating in the national FFA contests again?", their mean response was 9.6 with an 11 representing "very likely." These people believed they had received something of real value from their contest training and participation. These feelings need to be considered when interpreting the findings.

Readers are cautioned that no generalizations of the findings should be made to contests conducted at the state or local level. The results from this study are specific to a unique blend of individuals that are substantially different from those participating at a lower level.

One area of concern from the findings had to be the significantly lower values in mean occupational advantage scores reported by female participants. It is quite likely that these scores reflected the reluctance of society to accept women in nontraditional occupations, but this is conjecture on the part of the researcher. The mean values reported by females on these measures were the lowest of any found in this investigation. Questions of equity raised by these findings require further explanation not possible from the limited data collected in this study.

Certain contests had significantly higher mean scores on measures of the relationship of the participants' current occupation to their

contest training. Some of the contests may need to re-examine the skills required for entry level positions in industry and adjust the contest emphasis to make it more appropriate. These findings may reflect industry differences in the availability of occupational opportunities.

Participants from the Southern FFA region believed their contest training assisted them more in obtaining employment than did participants from the Central and Western regions. This may reflect regional differences in occupational opportunities available, or indicate that vocational agriculture teachers in the Southern region are more likely to select team members with vocational objectives more closely related to their contest area.

The highest mean score on the four measures of occupational advantage was for the participants' anticipated future use of the contest skills. This would indicate that a large number of participants would like to use their contest acquired skills in an occupation, but that they were unable to secure a related position. This may reflect that the industries for which the training is directed may require more education or experience than can be provided in a secondary vocational agriculture program. If participants were still "hoping" to use their skills four to six years after they had judged, greater articulation of curricula with post-secondary schools would be beneficial to participants as they attempt to augment the skills they acquired in their vocational agriculture program.

The finding that only 37 percent of the participants had contest

related aspirations may be disturbing to many. The national contestants (theoretically) represent the most skilled, best trained, vocational agriculture students from each state in the nation. If the purpose of the vocational agriculture program is to prepare students for employment, then the students that are participating at the national level do not reflect that mission. No one contest had a higher proportion of its participants aspiring to related occupations, so this is a problem that transcends the entire national event.

The most important benefits respondents believed they received from participation in the national contests were interpersonal. They ranked contributions to their self-confidence and self-esteem as the top two benefits. While these benefits are admirable and supportive of the objectives of the FFA (19), judging contests may not be the most appropriate medium for satisfying these objectives. Many leadership activities at the chapter level can contribute to these objectives without the time and expense associated with conducting a national activity. Participants perceived the improvement of their computational skills and help in selecting an occupation as the two areas that the contests benefited them the least.

The type of benefits that participants received varied by contest area, FFA region, location of residence, and individual contest ranking. Although all of the participants believed that the contest experience had made a positive contribution to their lives, participants did not all believe they had benefited in similar ways. The conclusion could be drawn that the contests had something for everyone. It was clear

that the better an individual placed, the more they believed they had benefited. Individuals that were farm-reared believed they had received more benefits on practically every measure. The opportunity to travel and meet people from other parts of the country had a larger positive impact on individuals from rural areas and smaller schools.

A major part of this study was to determine relationships between personal characteristics and benefits the participants had received. Statistical tests failed to show any significant correlations. It was hoped that some relationships could be drawn to assist FFA advisors in team selection. It could be that relationships might be easier to profile in a state contest where the participants are less homogeneous in their abilities.

Participants most likely to have contest-related aspirations were profiled by use of discriminant analysis. These individuals were found to have lower post-secondary educational aspirations, were less likely to be FFA officers, were poorer students academically, and were less likely to conduct an SOE than were those participants without contest-related aspirations. As this represents a profile of the individual most likely to benefit occupationally, teachers of vocational agriculture should give serious consideration to the types of students they select as team members. It is also important to note that the participants with contest-related aspirations are more likely to place higher in the contests. If teachers are concerned with winning, they stand a better chance with the "real" vocational students, the ones most likely to enter the work force in a contest-related capacity soon after graduation

from high school.

Students most likely to have occupational aspirations indirectly related to their contest training comprised 26 percent of the contestants. This group can be characterized as those aspiring to be agricultural professionals; a large number wanted to be vocational agriculture teachers and extension agents. This group was found to aspire to more education, be better students academically, were more likely to conduct an SOE, and were more likely to be officers in the FFA. The national contest experience may be one of the best places for getting an early start in the training of future agriculture teachers. Contest officials will have to determine if this is a legitimate function of the national contests.

A disturbing finding was that 51 percent (N=42) of the participants with contest-related occupational aspirations did not conduct an SOE. A possible explanation for this is that students substitute experience acquired through judging competitions for occupational experiences. It may be that students that choose judging contests as an avenue for skills development have fewer opportunities for SOEs. It may also indicate that their FFA advisors place a greater emphasis on judging contests to the detriment of the remainder of their vocational agriculture curriculum. An interesting item to study might be the strength of the SOEs found in departments that place a heavy emphasis on judging events.

Practical interpretation of these findings was difficult. No objectives existed to which the findings could be compared. No national data exist as to the effectiveness of the vocational agriculture program

in preparing students for placement in agricultural occupations. Although only 37 percent of the participants had contest-related occupational aspirations, that figure may be a higher success rate than that found among vocational agriculture students that do not participate in judging contests. Clearly, those participants with contest-related occupational aspirations benefited from their national contest experience.

As this study was the first to follow-up on participants several years after they had competed in the national judging contests, it raised some questions that demand further explanation. Several topics for additional research were identified:

First, the lower mean scores reported on measures of occupational advantages perceived by females requires further study. The limited data collected in this study identified the problem; more data need to be collected to explain it.

Second, now that it has been established that there are no significant differences in the proportion of students with contest-related aspirations among contests, more research needs to be conducted on individual contest areas. An analysis of the skills being used by participants occupationally could be beneficial to those responsible for contest content.

Third, research needs to be conducted to better understand why contestants with contest-related aspirations were less likely to conduct a supervised occupational experience program. This finding was just the opposite from what the researcher expected.

Fourth, a longitudinal study of the population used in this study needs to be conducted to determine if these participants' attitudes change over time, especially as they become better established in occupations.

SUMMARY

The national FFA judging contests have been an event of considerable controversy since their inception. How effective they had been in support of the vocational mission of the total vocational agriculture program was unknown. No previous research had followed up on contest participants to ascertain their occupational status as it related to their contest experience. The objectives of this study were: 1) to determine if contest participants were employed or preparing for employment in the capacity for which they were trained, 2) to determine the personal and occupational benefits participants received, 3) to determine the post-secondary educational advantages participants received, 4) to determine the level of educational and occupational aspirations of the participants, and 5) to identify the relationships between student characteristics and the degree to which they were using the contest skills in an occupation. This research provided information to satisfy these objectives. Future decisions concerning the contests' value and content can be based on knowledge that before this study did not exist.

The sample for this study consisted of 225 individuals selected from a computer-generated list of names and addresses using systematic sampling. A response rate of 61 percent was obtained from two mailings. Substitution for nonrespondents were made following prescribed methods. The sample represented the population of national contest participants from the years 1979 through 1981. Older participants would have been

more desirable, but home addresses were not available for contestants prior to 1979.

Data used in this study were collected from a questionnaire designed by the researcher with the assistance of individuals knowledgeable about the national FFA contests as well as the vocational agriculture curriculum. The instrument was field tested for reliability prior to being mailed to the selected subjects. Cronbach's coefficient alpha was determined to be .80 for the total instrument, with individual concepts all greater than .90. A correlational design that made extensive use of multivariate statistical procedures was employed, with selected causal-comparative statistical techniques used for data analyses. Factor analysis was used for data reduction.

The purpose of vocational education programs, as defined in their authorizing legislation, is to prepare persons for employment or for further education of less than college grade. As such, the support the national contests lend to the vocational purposes of the program are questionable. Only 37 percent of the participants had occupational aspirations related to their training. Fifty-seven percent of the participants aspired to educational levels of at least a bachelor's degree. This was not the profile of the individual the program was designed to serve, and would lend credence to the arguments of those claiming that the contests are serving the wrong students.

The largest benefits participants received from participation in the contests were interpersonal. On measures of vocational benefits, the mean value scores were considerably lower. While interpersonal

benefits cannot be dismissed as insignificant, the major purpose for conducting the contests would have to be the vocational skills developed by participants. The participants were not using these skills in occupations to any significant degree four to six years after they had competed at the national level. The scores for female participants were even lower.

Participants believed their contest training was beneficial to them in their post-secondary schooling. This indicates that secondary teachers of vocational agriculture need to work closely with agricultural educators at higher levels in articulation of curricula. It is highly likely that the national contests have a larger proportion of its participants aspiring to college degrees than would be found in a typical vocational agriculture program. Some might question whether the preparation of agriculture students for college is a legitimate function of the vocational agriculture program.

This research identified the contest participants most likely to have contest related occupational aspirations. The participant with lower educational aspirations, that was less likely to be an FFA officer or conduct an SOE, and that was poorer academically was most likely to have contest-related occupational plans. It must be remembered that this population represented a select group of vocational agriculture students, and that this group was still rather outstanding in their abilities. This finding should assist FFA advisors in selecting team members most likely to benefit vocationally from their contest training. The results of this study would indicate that far too few of the students

most likely to benefit vocationally were provided an opportunity to compete at the national level. Too many participants with non-vocational motives were competing, denying those students most likely to benefit occupationally an opportunity to participate at the national level.

Certain contests were found to have a significantly higher mean score measuring the relationship of the contest training to the participants' current occupation. Contests having fewer participants currently employed in the area in which they were trained were the Poultry and Nursery/Landscape contests when compared to Agricultural Mechanics, Dairy Cattle, and Livestock.

Participants from the Southern FFA region perceived that their contest training had assisted them more in obtaining employment than did participants from the Central and Western regions. This was the one measure of occupational advantage in which female participants did not have significantly lower mean scores.

This study was exploratory in nature and was extremely broad in its approach to the research problems. As a result of this study, a better understanding of the significant differences among contest area exists. More detailed research needs to be conducted with participants to delve more deeply into the exact skills being used from each contest area in an occupation. A research effort that examined just one contest at a time might yield results that could lead to substantial improvement in contest content. The results would be an improved educational experience for all FFA members that choose to participate.

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I am grateful to Dr. Anton Netusil for his statistical assistance, excellent teaching, and willingness to serve on my graduate committee.

I appreciate the interest of Dr. Wade Miller in the emerging technologies, and the opportunities that those interests created for me.

I am thankful for the talents and ideas provided by the other members of my graduate committee: Drs. Carter, Foreman, and Hoerner.

Lastly, I would like to thank all of the many good friends here in Ames who have made these past three years such a pleasant experience.

APPENDIX A. SURVEY INSTRUMENT

First we would like to ask you some questions about your high school and FFA experiences.

1. The number of years of FFA membership that you had was? ___ _____

2. The highest degree of FFA membership that you achieved was:

_____ Greenhand
_____ Chapter Farmer
_____ State Farmer
_____ American Farmer

3. The number of semesters of vo-ag instruction you completed was:

_____ one to two
_____ three to four
_____ four to five
_____ six to eight

4. Please indicate your high school class rank in the space provided below. If unknown estimate as accurately as possible.

I ranked _____ out of a class of _____

5. Place a check by the group you were in upon graduation from high school.

_____ I was in the top quarter of my class.
_____ I was in the second quarter of my class.
_____ I was in the third quarter of my class.
_____ I was in the lower quarter of my class.

6. Place a check by each of the following FFA activities in which you participated÷2:

_____ Building Our American Communities (BOAC)
_____ Public, Extemporaneous, or Creed Speaking Contests
_____ Parliamentary Procedure or Conduct of Meetings
_____ Leadership training camps or retreats
_____ Food For America
_____ Chapter Safety
_____ Fairs and Shows
_____ Proficiency Awards
_____ FFA Officer (specify level; Chapter, State, National)

_____

_____ Fund Raising
_____ Chapter Banquet
_____ School Test Plot or Farm
_____ Other (please specify) _____

7. Which of the following high school activities did you participate in?

_____ Athletics
_____ Debate or Public Speaking
_____ Band or Choir
_____ Student Government
_____ Organizations other than FFA
_____ Other (please specify) _____

8. Estimate the number of students that were in your:

_____ High School

_____ Vo-ag program

_____ FFA chapter

If you conducted a Supervised Occupational Experience (S.O.E.) program while in high school please answer questions 9 through 11, if not got to question number 12.

9. Place a check by the area that your primary S.O.E was in:

_____ Agricultural Production (livestock, plant production)
_____ Ag Sales and Service (processing, marketing, services)
_____ Agricultural Mechanics (sales, service)
_____ Horticulture (production, marketing, processing, services)
_____ Ag Products and Processing (inspection, processing, marketing)
_____ Renewable resources (conservation, utilization, service)
_____ Forestry (production, processing, marketing, service)

10. Place a check by the type of S.O.E. that it was:

_____ Production or Ownership
_____ Work Experience
_____ Both Production and Work Experience

11. How closely related were the skills you learned in preparing for and participating in the National FFA Contests to the skills required in conducting your S.O.E. (please circle the appropriate response)?

no relation close relation

1 2 3 4 5 6 7 8 9 10 11

NOW, we would like to ask you some questions about the National FFA Contest in which you participated.

12. Please indicate (by year) the National Contest(s) in which you participated. (for example; 1979 Dairy Cattle).

_____ Agricultural Mechanics
_____ Dairy Cattle
_____ Farm Business Management
_____ Floriculture
_____ Livestock
_____ Meats
_____ Milk Quality and Dairy Foods
_____ Nursery/Landscape
_____ Poultry

13. How did your team rank in the contest (if you participated more than once indicate the best your team did)?

_____ Gold
_____ Silver
_____ Bronze
_____ Participation

14. How did you rank in the contest as an individual (if you participated more than once indicate the best you did)?

_____ Gold
_____ Silver
_____ Bronze
_____ Participation

15. Rate the overall educational experience you had in preparing for and participating in the National FFA Contests. Circle your response.

poor excellent

1 2 3 4 5 6 7 8 9 10 11

16. What was the most important benefit you received from preparing for and participating in the National FFA Contests?

_____

17. In what one-way was your preparation for and participation in the National FFA Contests a poor experience?

_____

18. If you could repeat your high school education, How likely would it be that you would attempt to acquire the same skills that you learned in preparing for and participating in the National FFA Contests again? Please circle our response.

unlikely very likely

1 2 3 4 5 6 7 8 9 10 11

19. Please indicate how your preparation for and partioipation in the National FFA Contests contributed to your life in the following areas. Circle your response.

Example: The Contests helped me to:

improve my decision making skills 5 4 3 2 1

The Contests helped me to:	very much	much	some	little	none
choose an occupation	5	4	3	2	1
develop my self confidence	5	4	3	2	1
develop an interest in learning	5	4	3	2	1
set my educational objectives	5	4	3	2	1
improve my communication skills (reading, writing, and speaking)	5	4	3	2	1
improve my computational skills (math)	5	4	3	2	1
become more employable	5	4	3	2	1
improve my self-esteem	5	4	3	2	1
improve my social status and prestige	5	4	3	2	1
improve my ability to relate to others	5	4	3	2	1
develop hobbies and leisure activities	5	4	3	2	1
improve my leadership skills	5	4	3	2	1
gain occupational skills and competencies	5	4	3	2	1
develop my problem solving skills	5	4	3	2	1
improve my decision making skills	5	4	3	2	1

If you have completed your formal education go to question number 25.

20. Indicate the highest level of education that you think you will achieve.

_____ less than a high school education (if this is your answer go to question #29)

_____ high school diploma (if this is your answer go to question #29)

_____ vocational, trade, or technical school certification

_____ Associate of Arts or Science (A.A, A.S.)

_____ Bachelors of Arts or Science (B.A., B.S.)

_____ Master's or Doctor's degree (M.S., Ph. D., DVM, M.D., ect.)

21. Your major area of study is (for example; Agronomy, Chemistry)?

_____

22. How certain are you of completing your educational goals (circle your response).

uncertain										highly certain
1	2	3	4	5	6	7	8	9	10	11

23. How much benefit do you feel your training for the National FFA Contests will be in helping you to accomplish your educational goals (circle your response)?

no benefit										great benefit
1	2	3	4	5	6	7	8	9	10	11

24. How closely related are the skills you learned in preparing for and participating in the National Contests to your educational goals (circle your response)?

no relation										close relation
1	2	3	4	5	6	7	8	9	10	11

Go to question number 29.

Answer questions 25 through 28 if you have completed your formal education.

25. The highest level of education that you have completed is :

_____ **less than a high school education (if this is your answer go to #29)**

_____ **high school (if this is your answer go to #29)**

_____ **vocational, technical, or trade school**

_____ **Associate of Arts or Science**

_____ **Bachelors of Arts or Science**

_____ **Master's or Doctor's degree**

26. Your major area of study was (be specific; for example Agronomy)

_____

27. How much benefit was your training for the National Contests in helping you to accomplish your educational objectives (circle your response)?

no benefit										great benefit
1	2	3	4	5	6	7	8	9	10	11

28. How closely related were the skills you learned in preparing for and participating in the National Contests to your educational goals (circle your response)?

no relation										close relation
1	2	3	4	5	6	7	8	9	10	11

Now, we would like to ask you some questions about your future occupational objectives.

29. If you were free to choose any occupation for a lifelong career or job it would be (be specific; for example Diesel Mechanic):

_____

30. Knowing that there are certain obstacles which may prevent you from obtaining your ideal career choice; What occupation do you feel you can achieve?

_____

If you have ever been self employed or a full time employee (at least 40 hours weekly) please answer questions 31 through 34.

31. How closely related are the skills you learned in preparation for the National FFA Contests to the skills required in your current job. Circle the most appropriate response, if currently unemployed leave blank.

no relation									close relation	
1	2	3	4	5	6	7	8	9	10	11

32. How much have you used the skills you learned in preparing for and participating in the National FFA Contests in an employment or business situation?

never									frequently	
1	2	3	4	5	6	7	8	9	10	11

33. Looking to the future; How valuable do you think the skills you learned in preparing for and participating in the National FFA Contests will be to your employer or business in ten years (circle your response)?

no value									great value	
1	2	3	4	5	6	7	8	9	10	11

34. How beneficial have the skills you learned in preparing for and participating in the National FFA Contests been to you in obtaining a job, career, or business opportunity (please circle your response)?

no benefit										large benefit
1	2	3	4	5	6	7	8	9	10	11

We would now like you to respond to a few concluding questions about yourself and your family background.

35. Up to the present where have you spent most of your life ?

_____ on a farm

_____ in a non-farm country home

_____ in a small town with a population less than 2,500

_____ in a town with a population between 2,500 and 5,000

_____ in a town with a population between 5,000 and 50,000

_____ in a city with a population of over 50,000

36. What was your father's occupation most of the time while you were living at home (be specific; for example grain farmer)?

_____

37. What was your mother's occupation most of the time while you were living at home (be specific)?

_____

38. What was the number of people in your immediate family while you were living at home?

_____

39. Your sex is? _____ male _____ female

40. The state where you have lived the majority of your life is:

_____

41. Your age at your last birthday was: _____

Check here if you wish to receive a summary of the findings _____.

* *

Please staple the questionaire closed, and place it in the mail. No postage stamps are necessary as mailing costs have been pre-paid by the National FFA. Thank you for your assistance.

* *

code _____

APPENDIX B. CORRESPONDENCE

Iowa State University of Science and Technology Ames, Iowa 50011

Department of Agricultural Education
223 Curtiss Hall
Telephone 515-294-5872

April 15, 1985

Dear National FFA Contest Participant:

The National FFA needs your assistance. Two weeks have passed since we mailed you a very important questionaire asking for your help in evaluating the National FFA Contests. At this time we have still not received your response. Should this letter have crossed your completed survey in the mail we thank you for your speedy reply. If you have not yet returned the questionaire, your prompt attention would be most appreciated.

We realize that you may be residing at a different address than you were when you competed at Kansas City. Delays may have occurred in forwarding the first questionaire to you in the mail. We have included another survey with this letter should the first one have been lost or damaged. We consider your responses to be very important and would like to include them as a part of this evaluation. This survey represents the first time that follow-up information has been collected from participants. If our results are to be valid we need to receive information from everyone surveyed.

Your responses will be held in the strictest confidence and will be used only in group summary .The code number found on the questionaire will be used only to identify individuals wanting a summary of the results. Your answers will never be identified with you personally.

It would be appreciated if you could complete the attached survey and return it to us no later than May 1st. All postage costs have been pre-paid, just follow the mailing instructions found at the end of the questionaire. Thank you in advance for your assistance.

Sincerely yours,

Dr. Alan A. Kahler
Professor, Agricultural Education

Kevin J. Gamble
Information Specialist,
Iowa Extension Service

Iowa State University of Science and Technology Ames, Iowa 50011

Department of Agricultural Education
223 Curtiss Hall
Telephone 515-294-5872

March 28, 1985

Dear National FFA Contest Participant:

As a competitor in the National FFA Contests in Kansas City, you have taken part in an educational event that only a small fraction of the FFA members nation-wide ever experience. As a member of such a prestigious group, you can assist us in providing valuable information for use in evaluation and planning of future contest efforts. With your help, we can improve upon the educational benefits that young people receive from participating in the National Contests. All we ask is a few minutes of your time.

The attached survey instrument is part of a national study being carried on cooperatively by the National FFA and the Agricultural Education Department at Iowa State University. This survey represents the first time that follow-up information has been collected on participants from all contest areas; as such your responses are very important. The information we are seeking is of a personal nature, however, your responses will be held in the strictest confidence and used only in group summary. We would be pleased to share a summary of the results if you desire. The code number found on the survey will be used to identify individuals wanting the results; your responses will never be identified with you personally.

It would be appreciated if you could complete the attached form and return it to us by April 15th. All postage costs have been pre-paid; just follow the mailing instructions found at the end of the survey. Thank you in advance for your cooperation.

Sincerely yours,

Dr. Alan A. Kahler
Professor, Agricultural Education

Kevin J. Gamble
Information Specialist,
Iowa Extension Service